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ROUTING FORM FOR SMITH'S FARM FIVE-YEAR REVIEW SIGNATURE		
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FIVE-YEAR REVIEW

Return to Antonio DeAngelo, x28826, NSMB, 11th Floor.

DECLARATION FOR THE SMITH'S FARM FIVE-YEAR REVIEW

SITE NAME AND LOCATION

Smith's Farm Site
Brooks, Bullitt County, Kentucky

STATEMENT OF BASIS AND PURPOSE

This document presents the current conditions at the Site and makes recommendations regarding Operation and Maintenance activities and future reviews. Section 121(c) of the Comprehensive Environmental Response Compensation, and Liability Act (CERCLA), as amended, requires that if a remedial action is taken that results in any hazardous substances, pollutants, or contaminants remaining at a site, the Environmental Protection Agency (EPA) shall review such remedial action no less often than each five years after initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

ASSESSMENT OF THE SITE

The Site response continues to be protective of human health and the environment. The Site construction is complete at both Operable Units. EPA will ensure that the completed Site remedial action construction remains protective by conducting Five-Year Reviews in the future. The next Review should be completed by September 2003.

Approved by: _____ Date: SEP 30 ENT'D '98

Richard D. Green, Director
Waste Management Division
USEPA - Region IV

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SMITH'S FARM (Brooks)

CERCLA NPL SITE

Brooks, Bullitt County, Kentucky

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FIVE-YEAR REVIEW

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PREPARED BY THE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

Atlanta, Georgia

September 1998

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1.0 INTRODUCTION.

Section 300.430(f)(4)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, (which implements Section 121(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA)), requires five-year reviews "if a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure." The five-year review requirement in the NCP applies only to Records of Decision (RODs) adopted after SARA (i.e., after October 16, 1986). Such reviews are referred to as "statutory reviews". Statutory reviews must continue at least every five years until contaminant levels allow for unlimited use and unrestricted exposure.

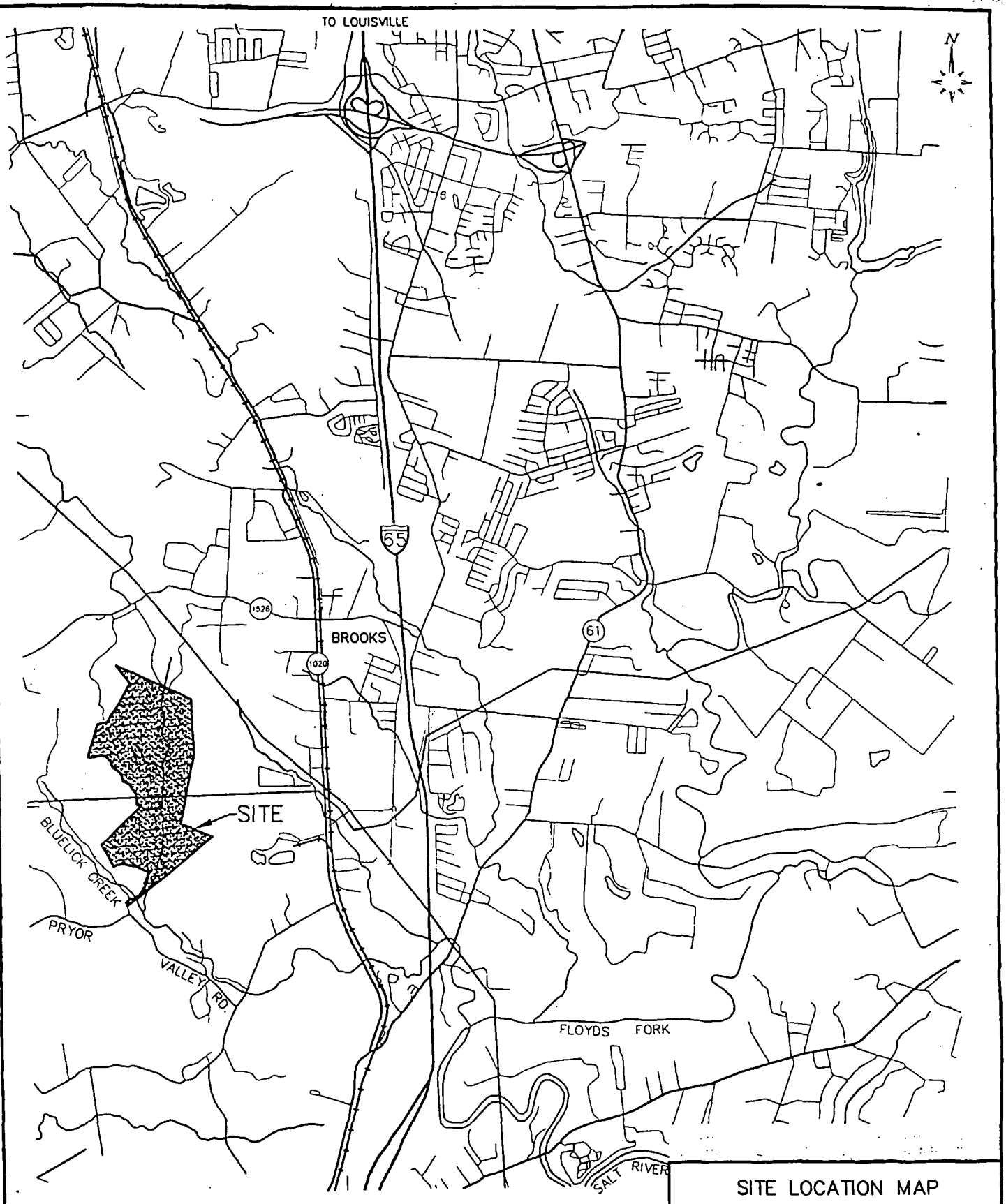
USEPA ("the Agency") has also committed to conducting certain discretionary reviews called "policy reviews". Policy reviews are five-year reviews at sites where reviews are not required by CERCLA or the NCP, but are conducted as a matter of Agency policy.

The Operable Unit One Remedial Action on-Site construction activities began in May 1993. The review is a statutory review in that contaminants remained on-Site after the Operable Unit One Remedial Action construction, which continued from the summer of 1993 through the fall of 1996. The Remedial Action construction was a final partial site cleanup in that the Remedial Action construction at Operable Unit Two responded to all remaining Superfund problems.

2.0 SUMMARY OF SITE CONDITIONS.

2.1 Site Location and Description.

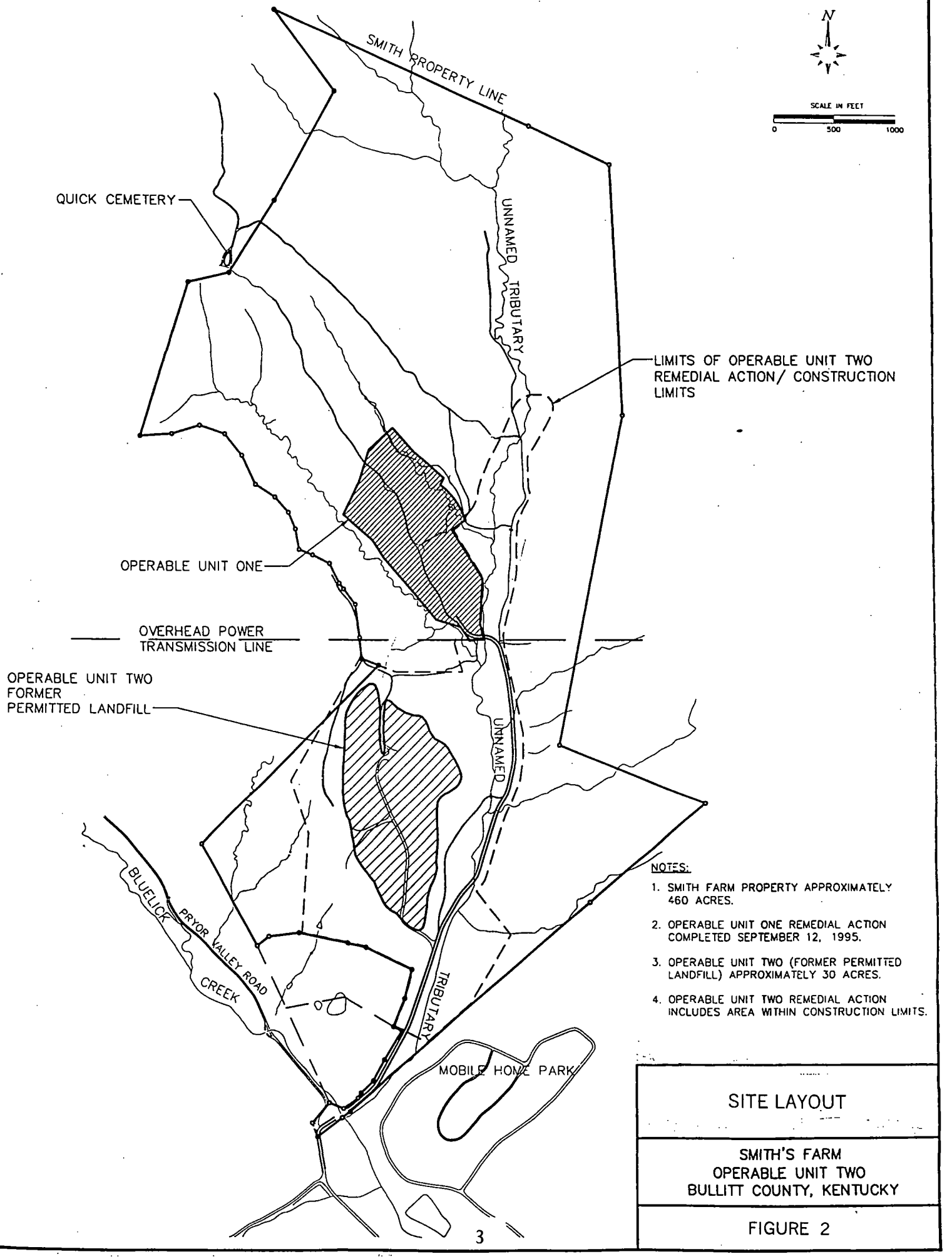
The Smith's Farm Superfund Site is located in rural Bullitt County, Kentucky, approximately fifteen (15) miles south of Louisville at latitude 38°02'45" north and longitude 85°44'00" west and is within a 460-acre property. The Site proper is more than 100 acres and consists of a 40-acre unpermitted former drum disposal area and a 40-acre formerly-permitted construction debris landfill and several smaller, isolated disposal areas. The Site is currently bordered on the north, east, and west by forested hills and on the south by a residential area composed of mobile homes and small single family structures along Pryor Valley Road (Figure 1). The Site includes two disposal areas where unpermitted disposal of hazardous waste occurred over at least a thirty year period. Therefore, Site investigation and cleanup are being addressed in two different phases, or operable units (Figure 2). Remedial action began first at the Operable Unit One area, which is a 40-acre unpermitted drum disposal area in the northern part of the Smith's Farm property. Operable Unit Two is the old Smith's Landfill which began operating in the mid-nineteen fifties and was permitted by the Commonwealth of Kentucky intermittently from about 1978 to 1989. The old Smith's Landfill is in the southern portion of the Smith's Farm property.



SITE LOCATION MAP

SMITH'S FARM
OPERABLE UNIT TWO
BULLITT COUNTY, KENTUCKY

FIGURE 1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SCALE IN FEET
0
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SMITH PROPERTY LINE
QUICK CEMETERY
UNNAMED TRIBUTARY
LIMITS OF OPERABLE UNIT TWO REMEDIAL ACTION/ CONSTRUCTION LIMITS
OPERABLE UNIT ONE
OVERHEAD POWER TRANSMISSION LINE
OPERABLE UNIT TWO FORMER PERMITTED LANDFILL
UNNAMED TRIBUTARY
BLUELICK CREEK
PRYOR VALLEY ROAD
MOBILE HOME PARK
NOTES:
1. SMITH FARM PROPERTY APPROXIMATELY 460 ACRES.
2. OPERABLE UNIT ONE REMEDIAL ACTION COMPLETED SEPTEMBER 12, 1995.
3. OPERABLE UNIT TWO (FORMER PERMITTED LANDFILL) APPROXIMATELY 30 ACRES.
4. OPERABLE UNIT TWO REMEDIAL ACTION INCLUDES AREA WITHIN CONSTRUCTION LIMITS.
SITE LAYOUT
SMITH'S FARM
OPERABLE UNIT TWO
BULLITT COUNTY, KENTUCKY
FIGURE 2

In 1983, an unpermitted drum disposal area (OU1) was discovered by the Kentucky Department of Environmental Protection (KDEP). The KDEP subsequently requested that EPA investigate the Site. In April 1983 the NUS Corporation, under contract to EPA, conducted a magnetometer survey of the drum disposal area. This survey provided an indication of the location and the lateral extent of probable buried drums in the unpermitted portion of the Site. In April 1984, representatives of the EPA's Region IV Emergency Response and Control Section, the Environmental Response Team (ERT), the Technical Assistance Team (TAT) and the KDEP visited the Site and collected samples of waste from several drums in the OU1 area. From June 1984 until mid-August 1984, the EPA removed approximately 6,000 surface drums. Of these 6,000 drums, 2,000 contained hazardous waste and 200 contained polychlorinated biphenyl (PCB) contaminated waste. Also, 15,000 gallons of flammable liquids were removed. In June 1984, the EPA notified PRPs of the Removal Action activities being performed at the Smith's Farm Site. In June 1986, the Smith's Farm Site was included on the National Priorities List (NPL). In the fall of 1989 a complaint was filed against four major PRPs for cost recovery of EPA's removal costs.

Through initial investigations of the Site, EPA determined that the following contaminants were present in waste samples during exploratory trenching: BTEX, trichloroethylene, ketones, PCBs, and various volatile organics. Contaminants in leachate and leachate sediment included: aluminum, arsenic, barium, cadmium, calcium, iron, lead, magnesium, manganese, sodium, zinc, volatile organics, and semi-volatiles. These contaminants posed the greatest risk to human health through dermal contact. Concentrations of Site contaminants in the scarce deep ground water beneath the Site have been, and continue to be, below health-based levels and, therefore, do not pose a threat.

In July 1987, the Fund-lead Remedial Investigation/Feasibility Study (RI/FS) activities for the OU1 area began. The ROD for the OU1 area was completed on September 29, 1989. After a period of negotiation, the EPA issued a CERCLA Section 106 Unilateral Administrative Order (UAO) to more than 30 PRPs on March 14, 1990, to perform the OU1 RD/RA activities. The RD began on May 4, 1990. During the course of the RD, data generated from additional sampling and analysis and from treatability studies indicated a need for an amendment to the original ROD. The amended ROD was issued by EPA on September 29, 1991. The major modification to the selected remedy was the deletion of incineration as a requirement and the substitution of treatment of PCB-contaminated soils by chemical treatment and by solidification/fixation. The OU1 RA began in May 1993; construction activities were completed in January 1996.

The PRP-lead OU2 RI/FS was completed in January 1992. The OU2 ROD was completed in September 1993 due to ongoing legal activities and schedule adjustments during the OU1 cleanup. In April 1994, after unsuccessful negotiations, a UAO for the RD/RA for OU2 was issued to ten PRPs. The RD began in June 1994; the RA construction began in March 1996, and was substantially complete in September 1998, and resulted in the consolidation and capping of the 40-acre, formerly permitted landfill, and the construction of a leachate treatment plant with an NPDES-type discharge to an on-site intermittent stream. O & M activities began during the late summer of 1998.

On March 14, 1990 a Unilateral Administrative Order (UAO) for a Remedial Design and Remedial Action (RD/RA) was issued to more than thirty potentially responsible parties (PRP's) by the USEPA for the Operable Unit One area. The Remedial Design was finalized late in 1992 and the Remedial Action, or actual cleanup and construction activities, began in May 1993. Those Remedial Action construction activities will continue through the end of 1995 and are expected to be completed in January 1996.

On April 22, 1994 a Unilateral Administrative Order (UAO), which ordered ten PRP's to conduct a Remedial Design and a Remedial Action (RD/RA) at the Operable Unit Two area, was issued by the USEPA, Region IV, Atlanta, Georgia. The Remedial Design activities for that second Operable Unit began in June 1994. The Remedial Design to be finalized in the fall of 1995 and the Remedial Action began early in 1996. The Remedial Action construction was substantially complete in September 1998.

While the remediations at Operable Units One and Two were ongoing under the two aforementioned UAOs, attorneys from the U.S. Department of Justice in Washington, D.C., and from USEPA's Atlanta office worked with representatives from the major PRP's to settle lawsuits which involved the payment of past, present, and future response costs. These negotiations resulted in a Consent Decree in October 1997 and an AOC for certain *de minimis* parties in January 1998. Negotiations for a second Consent Decree are reportedly underway. The maintenance for both Operable Units will be managed by the Ford Motor Company using money paid into a special fund by the PRP's. Land-use restrictions have been recorded with the County and overseen by the State and USEPA.

2.2 Lead and Support Agencies.

The USEPA has categorized the Smith's Farm NPL site as a Federal-enforcement or a responsible party (PRP) lead site, thus the USEPA is the lead agency for all Site response activities. The Commonwealth of Kentucky through the Kentucky Department of Environmental Protection (KDEP) is the support agency for Superfund activities at the Site.

3.0 SUMMARY OF RESPONSE ACTIONS SELECTED.

3.1 Operable Unit One: Selected Remedy.

The major tasks comprising the selected remedy in September 1989 OU1 ROD (modified by the September 1991 ROD Amendment) included:

(1) excavation of contaminated soil, surface drums, buried drums, and fill material from the main OU1 area of contamination;
(2) excavation of contaminated sediments from the intermittent valley streams;
(3) construction of a 11-acre landfill at the main OU1 area of contamination
(4) on-site base-catalyzed thermal desorption of the excavated contaminated

soils and sediments;

(5) solidification and on-site disposal of treated soils and sediments which have excessive concentrations of lead, and on-site disposal of soils and sediments which do not have excessive levels of lead;
(6) installation of retaining walls at the east and west toes of the hill which represents the main OU1 area of contamination, and consolidation and contouring of treated backfill and clean material in that area;
(7) installation of east and west leachate collection and conveyance lines in the new landfill, and installation of leachate collection tanks at the southernmost end of the new landfill;
(8) installation of a RCRA-type cap and cover system on the new landfill;
(9) construction of perimeter fences with warning signs and imposition of land-use deed restrictions; and
(10) monitoring of shallow ground water for 30 years.

3.2 Operable Unit Two: Selected Remedy

The major tasks comprising the selected remedy in the September 1993 OU2 ROD included:

(1) the extinguishing of the subsurface landfill thermal anomalies, if necessary;
(2) the consolidation within the landfill of peripheral, contiguous areas of landfill material;
(3) the installation of a leachate collection system at the bedrock surface along the entire east and south sides of the landfill, which diverts leachate to a collection tank and then to a multi-stage treatment system which then discharges treated, cleaned liquid to the Unnamed Tributary, and which will be operated for at least thirty years after construction is complete;
(4) the installation of a multi-layer, RCRA-type cap and cover system with attendant run-on and run-off systems;
(5) the installation of perimeter fencing, lockable gates, warning signs, and the imposition of deed restrictions and water use restrictions; and
(6) monitoring of shallow ground water and treatment plant effluent for 30 years.

4.0 SUMMARY OF RESPONSE ACTIONS PERFORMED.

4.1 Operable Unit One: Description of Remedy Performed.

Surface and subsurface soil and sediment hot spots contaminated with PCBs and PAHs were confirmed by additional sampling and analysis, excavated, screened, and stockpiled.

Base-catalyzed thermal desorption process equipment was mobilized to a custom-built three acre concrete pad immediately southeast of the main OU1 area, and stockpiled contaminated soils were treated in the modified rotary kiln incinerator. Approximately 20,500 cubic yards of soils and sediments were treated. Treated soils and sediments analyzed for lead concentrations over the 500 ppm action level were not found, so no solidification of soils was necessary.

At the main OU1 area an 11-acre landfill was constructed. On the west toe of the hill comprising the main OU1 area a reinforced concrete retaining wall 1,000 feet long was built. On the northeast corner of the hill another reinforced concrete retaining wall was built. Main leachate collection and conveyance lines were installed along the entire north-south edges of the east and west sides of the new landfill inside the retaining walls. The gravity-fed leachate collection lines were connected to two double-wall fiberglass reinforced plastic (FRP) underground storage tanks.

After backfilling the new landfill with treated soils and contouring with compacted clean fill, the 11-acre landfill was capped with geocomposite bentonite matting, a 40 + mil thick high density polyethylene (HDPE) liner, and a geotextile drainage/filter net. A layer of top soil was applied and hydroseeded. Run-on and run-off ditches and swales were constructed. Gabions were installed at critical stretches along the Unnamed Tributary and its tributaries to guard against stream bank collapse and to manage erosion.

The entire OU1 area was fenced and signed. Deed restrictions for land-use were implemented.

Certain shallow ground water monitoring wells were scheduled for periodic sampling and analysis for 30 years after construction completion. Other standard O&M tasks for the landfill were scheduled, including the removal and off-site disposal of leachate from the storage tanks. Plans are being made to connect the OU1 leachate storage tanks to the OU2 leachate treatment plant by means of a force main in order to optimize the selected remedy and to reduce the cost of OU1 leachate treatment and disposal.

The OU1 ROD remedy was designed by the PRPs' supervising contractor, Law Engineering and Environmental Services, Inc.(Kennesaw, Georgia). The implementation of the OU1 RD was conducted by the PRPs' general contractor for the OU1 RA construction, Canonie Environmental, Inc.(Porter, Indiana).

4.2 Operable Unit Two: Description of Remedy Performed.

The Landfill's thermal anomalies were investigated and better delineated, but were not excavated or sprayed with water or fire retardent chemical foam or subjected to application of other nonhazardous extinguishing substances, because it was not necessary. Subsurface probes indicated that the thermal intensity at depth had decreased to the point that no response actions were necessary.

The consolidation and recontouring of the Landfill was designed and constructed to enhance the run-on and run-off of rainfall so that there would be no collection or ponding of surface water on the cap

and that efficient management of drainage was maintained. Small piles of metallic waste and old tires along the banks of the Unnamed Tributary were disposed into the Landfill during consolidation. Fill soils were derived from clean Smith's Farm property soils on the surrounding hillsides. Borrow areas were recontoured and seeded.

The cap and cover system was designed and built to satisfy RCRA-type cap and cover requirements. A geocomposite bentonite matting was placed upon the contoured and compacted earthen underlayment. A 40+ mil thick low density polyethylene (LDPE) plastic liner was installed over the bentonite geocomposite. Geotextile drainage netting was placed over the LDPE liner. Two feet of top soil was placed on top of the drainage geotextile and the top soil was seeded.

Since the former landfill comprises more than 35 acres of sloped terrain, it was important for the long-term reliability of the cap that rain water be systematically diverted onto and off of the cap without doing damage to the cap and cover system. Sod-lined and riprap-lined drainage ditches and swales were designed and built.

A subsurface leachate collection system extends down the east and southeast edges of the Landfill. Collected leachate is subjected to physical, chemical, and biological treatment, and discharge on-Site to the Unnamed Tributary. The discharge meets the substantive requirements of a KPDES discharge. The KDEP has been consulted and kept informed as to NPDES issues. The leachate treatment plant began full operation on August 14, 1998, and will run in a precommissioning mode for one year.

Perimeter fencing, lockable gates, warning signs, and other security measures were installed.

Arrangements have been made to perform sampling and full-scan (TCL/TAL) analysis of certain OU2 ground water monitoring wells and certain surface waters semi-annually for the first five years after landfill closure and then annually for the next 25 years. The frequency and character of sampling and analysis of the leachate treatment plant effluent was determined during the RA construction phase. The leachate plant effluent will be monitored monthly for the first 6 months of operation, bimonthly for months 7 through 18, and quarterly after the first 18 months. Reporting is scheduled for quarterly for the first 18 months, semi-annually until year 5 (after the first 18 months), and annually after year 5.

Water use restrictions for ground water and surface water in the immediate area of the Landfill were imposed. These waters are not to be used for potable water sources as a precaution against future releases of contaminants. Deed restrictions to restrict future land-use were imposed. The OU1 and OU2 landfills and the immediate area around the landfills is not to be utilized for residential or commercial building due to the continued presence of hazardous contaminants on-Site and the probable settling and subsidence of the landfills.

The OU2 ROD remedy design was completed by the PRPs' supervising contractor, Law Engineering and Environmental Services, Inc. The OU2 RD was implemented by the PRPs' OU2 general contractor, Foster-Wheeler, Inc.

5.0 DESCRIPTION OF POST-RESPONSE ACTION ACTIVITIES.

O & M for the OU1 area was conducted by Law Engineering and Environmental Services, Inc., and Canonie Environmental, Inc., during the 1995-1996 period. Monitoring and reporting was done by Advent Environmental, Inc. (Louisville, Kentucky) during the 1996-1997 period, and the actual O & M was arranged by Law Engineering. The descriptions of the O & M activities undertaken during the two aforementioned timeframes may be accessed in the two OU1 O&M reports referenced in the REFERENCES section of this Review. An **ANNUAL OPERATION & MAINTENANCE REPORT** (September 1996) summarized the OU1 O&M activities and monitoring data for the period October 1995 through September 1996. An **Annual Inspection Report** summarized the OU1 O & M activities and monitoring data for the period October 1996 through September 1997. Monitoring wells, erosion, fence condition, and leachate accumulation were examined. Leachate from the two 10,000 gallon underground storage tanks at OU1 is, on a monthly or bimonthly basis, pumped from the tanks to a tanker truck and hauled to a permitted off-site disposal facility. O & M for the OU2 area had not begun as of the date of this Five-Year Review.

6.0 SCOPE AND NATURE OF FIVE-YEAR REVIEW.

6.1 Document Review.

6.1.1 Background Information.

Certain Site file information was reviewed and referenced herein. The documents reviewed included those documents listed under REFERENCES at the end of this Report. These documents compose the major milestone documents for the Operable Unit One and Two response activities.

6.1.2 Design Review.

There were two Remedial Designs and two lists of Remedial Action tasks to be performed during the actual Operable Units One and Two Remedial Action constructions. All activities were well-planned, implemented properly, and well-documented. The resulting completed constructions faithfully reflected the EPA-approved designs.

6.1.3 Maintenance and Monitoring.

As described in section 5.0 above, O & M has been performed at the OU1 area since the fall of 1995; two O & M reports have been generated and the required monitoring and maintenance has been performed. The O & M for OU2 has not yet begun as of the date of this Five-Year Review..

6.2 Standards (ARARs) Review.

The ARARs described in each of the RODs have been adhered to throughout the two design and construction operable units. Of particular importance is the requirement that the OU2 leachate treatment plant discharge treated effluent which meets the standards assigned to a KPDES permit, although a permit is not required because the discharge is on-site at a Superfund NPL site.

6.2.1 Background Information.

The applicable or relevant and appropriate requirements (ARARs) for the Operable Unit One remedy are set forth in the OU1 ROD (September 1989) and in the OU2 ROD (September 1993). ARARs for each of the cleanup options were described in each ROD's comparative analysis of alternatives. ARARs for the two selected remedies are described within section 8.0 of each ROD.

6.2.2 Changing Standards.

The amended OU1 ROD (September 1991) did not modify the original ROD ARARs (September 1989), nor have the Operable Unit One ARARs been modified by any other activity or document. The OU2 ROD (September 1993) ARARs have not been modified by any other activity or document.

6.2.3 Risk Assessment.

The OU1 Risk Assessment and the September 1989 ROD found that the total risk associated with the OU was on the order of 10^{-3}. The ROD indicated that the primary exposures were associated with: (a) surface soils contacted by trespassers; (b) stream sediments contacted by trespassers; (c) surface water contacted by trespassers; and (d) surface water contacted by trespassers.

Health-based remediation levels for soils in the ROD were: lead (500 ppm); total polyaromatic hydrocarbons [PAHs] (5 ppm); and total polychlorinated biphenyls [PCBs] (2 ppm).

The OU2 Risk Assessment and the September 1993 ROD found that the total risk associated with the OU2 area was on the order of 10^{-4}. The ROD indicated that the primary exposures were associated with: (a) leachate and leachate sediments emanating from the Landfill; (b) surface waters receiving the Landfill leachate; (c) shallow ground water [leachate] in the overburden; (d) dust contaminated with heavy metals from the surface of the Landfill; (e) potential air emissions from subsurface thermal anomalies in the Landfill; and, incidentally, (f) on-site physical hazards due to ready access to piles of metallic and non-metallic debris along both banks of the Unnamed Tributary.

Health-based remediation levels for soils in the ROD were : bis (2-ethylhexyl) phthalate (0.9 ppm); heptachlor epoxide (0.006 ppm); 4,4'-DDE (0.023 ppm); 4,4'-DDD (0.058 ppm); 4,4'-DDT (0.047 ppm); alpha-chlordane (0.04 ppm); and gamma-chlordane (0.04 ppm). However, for the purposes of actual consolidation of soils, a subtotaling-of-concentrations scheme was devised to facilitate the consolidation of hundreds of thousands of cubic yards of soils associated with the OU2 area.

Health-based remediation levels for leachate/surface water were: antimony (62 ppb); arsenic (11 ppb); barium (231 ppb); 2-chlorophenol (23 ppb); chromium (11 ppb); dichloromethane (5,870 ppb); 2,4-dimethyl-phenol (4,570 ppb); nitrobenzene (250 ppb); n-nitrosodi-n-propylamine (11 ppb); phenol (365,000 ppb); and thallium (11 ppb).

Attendance to the proscribed ARARs during the design and construction activities at both operable units has resulted in a reduction in the total Site risk to below 10^{-6}. All major exposure pathways have been satisfactory addressed.

6.3 Community Relations.

The local citizenry have not been vocal about the Site. Site-specific citizen complaints are minimal insofar as the Agency can determine. In the recent past, the chief sources of complaints have been associated not with the Site's hazardous waste problems, but with local residents' problems with accessing the public drinking water supply and acceptable sewage treatment facilities, as well as erosion and drainage problems associated with flooding of the Unnamed Tributary and the mobile home park south of the Site.

6.5 Report.

The Five-Year Review process was begun in March 1998. The Site files were reviewed and Site inspections were conducted. This Review demonstrates that significant permanent reductions in the Site total hazard and total risk were accomplished as a result of the remedial responses and that any remaining maintenance issues have been satisfactorily addressed.

7.0 RESULTS AND RECOMMENDATIONS OF THE FIVE-YEAR REVIEW.

7.1 Results of Review.

7.1.1 Contamination Migration.

Prior to the succcessful completion of the RA constructions at both OU's, the two major potential exposure scenarios were: (1) exposure to contaminated surficial soils and sediments; and (2) exposure to contaminated leachate/surface waters. The satisfactory implementation of the OU1 and OU2 selected remedies has resulted in treatment and consolidation of contaminated soils, sediments, and wastes at OU1 and the consolidation of soils/sediments and wastes at OU2 under RCRA-type landfill caps. These cap and cover systems hace reduced the likelihood that workers and trespassers will be exposed to both contaminated surficial soils and sediments as well as to contaminated leachate and surface waters. Leachate at both OU's is collected. At OU1 it is collected in two 10,000 gallon underground storage tanks which are drained monthly or bimonthly, the leachate being disposed of off-site. At OU2 the leachate is collected in an infiltration gallery and a surge tank, and is treated in a state-of-the-art treatment plant which discharges effluent on-site to the nearby Unnamed Tributary.

7.1.2 Major Risks.

The major risks at the Site have been reduced significantly by the implementation of the selected remedies at both OU's. The capped landfills have reduced the risk of contact with waste, surficial soils and sediments. The collection and treatment of landfill leachate has reduced the risk of contact with leachate and contaminated surface waters. The installation of perimeter fencing reduces the risk of trespassing by local residents.

7.2 Recommendations.

The Agency has no plans for further RA construction at the Site. The OU2 RA construction will complete the final RA construction at the Site. However, the PRP Supervising Contractor, Law Engineering and Environmental Services, at the request of the Ford Motor Company, has determined that long-term cost savings may be achieved by the building of a force main from the OU1 leachate storage tanks to the OU2 leachate treatment plant. The treatment of the OU1 leachate at the OU2 treatment plant reduces the cost of OU1 leachate disposal by an estimated fifty per-cent. The force main is currently in design and may be built early in calendar year 1999, or perhaps late in 1998.

Periodic inspections of the Site by EPA on a monthly or bimonthly basis are recommended to make certain that the PRP-financed and conducted O & M is being done properly and according to the O & M plan. Thorough inspections are necessary to determine the extent, if any, of damage due to erosion, vandalism, or adverse weather conditions. Regular, comprehensive inspections of the leachate treatment plant during the year long precommissioning period (through August 1999) are necessary to ensure that the established discharge limits are not exceeded, and that all conveyance and treatment systems are operating properly.

The next Five-Year Review should be completed by September 2003.

REFERENCES

Guidance and Policy

"Structure and Components of Five-Year Reviews.", OSWER Directive 9355.7-02 (May 23, 1991).

"Procedures for Completion and Deletion and Five-Year Reviews for Sites on the National Priorities List", OSWER Directive 9320.2-3A, and Update 9320.2-3C (February 19, 1992).

"Five-Year Reviews: Prioritization; Guidance; Report.", OSWER Directive 9355.7-02A (July 30, 1993).

Enforcement

ADMINISTRATIVE ORDER [UAO] FOR REMEDIAL DESIGN AND REMEDIAL ACTION (THIRD AMENDMENT), SMITH'S FARM SITE, EPA DOCKET NO. 90-27-C, March 14, 1990.

UNILATERAL ADMINISTRATIVE ORDER FOR REMEDIAL DESIGN/REMEDIAL ACTION, SMITH'S FARM CERCLA NPL SITE, OPERABLE UNIT TWO, Brooks, Bullitt County, Kentucky, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION IV, ATLANTA, GEORGIA, April 22, 1994.

Consent Decree (Civil Action No. C90-0232-L(R)), UNITED STATES OF AMERICA, ET AL., Plaintiffs v. MARY RUTH SMITH ET AL., Defendants, October 14, 1997.

ADMINISTRATIVE ORDER ON CONSENT, Smith's Farm Superfund Site, Bullitt County, Kentucky, January 23, 1998. (Note: 24 *de minimis* parties.)

Remedial Response

RECORD OF DECISION, REMEDIAL ALTERNATIVE SELECTION, SMITH'S FARM SITE - FIRST OPERABLE UNIT, BROOKS, KENTUCKY, U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IV, ATLANTA, GEORGIA, September 29, 1989.

AMENDMENT TO THE RECORD OF DECISION (A Fundamental Change to the Remedy), SMITH'S FARM CERCLA NPL SITE, OPERABLE UNIT ONE, Brooks, Bullitt County, Kentucky, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION IV, ATLANTA, GEORGIA, September 30, 1991.

RECORD OF DECISION For OPERABLE UNIT TWO, SMITH'S FARM (BROOKS), CERCLA NPL SITE, SHEPHERDSVILLE, BULLITT COUNTY, KENTUCKY, KYD0972674139, SUMMARY OF REMEDIAL ALTERNATIVE SELECTION and the DECLARATION, U.S.

Environmental Protection Agency, Region IV, Atlanta, Georgia, September 17, 1993.

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